TABLES

Table 1-1
Summary of Compliance
July 2005

Extraction Well Network	Compliance Criteria Met (yes/no)	Comments
Flow Rate Performance - Target Extraction Rate		
Newmark North Extraction Well Network	No	The City is unable to sustain the three month rolling average Target Extraction Rate for the Newmark North extraction well network (see Table 2-3). A letter informing the EPA and DTSC of this condition was sent out on July 25, 2005. An evaluation of the conditions causing this flow rate variance will be submitted.
Newmark Plume Front Extraction Well Network	NA	Flow rate performance criteria are not applicable until the Muscoy OU is declared Operational and Functional
Muscoy Plume Extraction Well Network	NA	Flow rate performance criteria are not applicable until the Muscoy OU is declared Operational and Functional
Flow Performance - Particle Tracking		
Newmark Plume Front Extraction Well Network	NA	Flow performance criteria for the Newmark OU IRA are not applicable until particle tracking methodology is established in an approved Operational Sampling and Analysis Plan
Muscoy Plume Extraction Well Network	NA	Flow performance criteria are not applicable until the Muscoy OU is declared Operational and Functional
Contaminant Performance - Downgradient Monitoring Wells		
Newmark Plume Front Extraction Well Network	NA	The first monitoring well sampling round for evaluating contaminant performance will be conducted in November 2005
Muscoy Plume Extraction Well Network	NA	Contaminant performance criteria are not applicable until the Muscoy OU is declared Operational and Functional

Notes:
NA - not applicable (see comment for reason)

Table 2-1
Summary of Newmark OU O&M - Extraction Wells

Reporting Period: **July 1, 2005 - July 31, 2005**
System Operation Date: **October 1, 2000**
Operations Completed: **5 years and 10months**

Newmark North Plant Extraction Well Network (EPA 006, EPA 007, Newmark 3)	
Description Routine Maintenance Performed	Daily equipment checks performed (see DHS report), monthly hands on physical, annual oil change, semi-annual check of VFD
Description of Problems Encountered	EPA 006 is operating on an approximate 12 hour daily schedule due to the pump breaking suction after extended pumping periods. The pump was last tested on June 30, 2005.
Description of Process Improvements Implemented	None
Deviations from the Operational Requirements of the Consent Decree	Unable to meet the three month rolling average Target Extraction Rate (see the letter to the EPA/DTSC dated July 25, 2005).
Newmark Plume Front Extraction Well Network (EPA 001, EPA 002, EPA 003, EPA 004, EPA 005)	
Description Routine Maintenance Performed	Daily equipment checks performed (see DHS report), monthly hands on physical, annual oil change, semi-annual check of VFD
Description of Problems Encountered	The run time clocks for EPA 002 and EPA 003 malfunctioned and were replaced during the reporting period. Therefore, the run time for the reporting period was estimated based on totalizer readings collected by the RTU every 6 hours.
Description of Process Improvements Implemented	None
Deviations from the Operational Requirements of the Consent Decree	None

Table 2-2
Summary of Extraction Well Flow Data
July 2005

Extraction Well[2]	Monthly Extracted Water Volumes (acre-ft)	Average Monthly Flow Rate (gpm)	Cumulative Volume Extracted[1] (acre-ft)	Number of Days in Month =	31
				Monthly Run Time (days)	Monthly Down Time (days)
Newmark North Plant Extraction Well Network					
EPA 006	37.9	277	3,277	15.0	16.0
EPA 007	165.8	1,210	6,865	30.8	0.2
Newmark 3	103.3	754	4,807	30.8	0.2
Network Total	**307.0**	**2,241**	**14,950**		
Newmark Plume Front Extraction Well Network					
EPA 001	205.9	1,503	9,204	30.8	0.2
EPA 002	164.0	1,197	10,339	NA[2]	NA[2]
EPA 003	216.1	1,577	11,870	NA[2]	NA[2]
EPA 004	198.7	1,450	11,075	30.7	0.3
EPA 005	213.3	1,557	9,933	30.7	0.3
Network Total	**997.9**	**7,284**	**52,420**		

Notes:

Per the terms of the Statement of Work, once Muscoy is declared O&F the City will be required to demonstrate flow compliance with each extraction well networks Target Extraction Rates considering the specified maintenance allowances. At such time the City will provide the supporting calculations in a tabular format.

NA - Not available

(1) - Cumulative volume extracted since Newmark OU System Operations Date (October 1, 2000)

(2) - The run time clocks for EPA 002 and EPA 003 malfunctioned during the reporting period and had to be replaced. Run time data was not collected between July 7th and 13th for EPA 002 and July 1st through 6th for EPA 003. A review of flow data indicates that the wells operated continuously during these periods.

Table 2-3
Three Month Rolling Average Extraction Volume and Rate Calculations
July 2005

Extraction Well	Total Volume Pumped In The Last Three Months (acre-ft)	Three Month Rolling Average Extraction Rate (gallons/month)	Monthly Target Extraction Rate[1] (gallons/month)	Three Month Rolling Extraction Rate (gpm)	Design Extraction Rate (gpm)	Target Extraction Rate With Maintenance Allowance[2] (gpm)	Difference Between Three Month Rolling Average and TER (gpm)
Newmark North Plant Extraction Well Network							
EPA 006	159	1.724E+07	3.960E+07	390	1,000	905	-514
EPA 007	520	5.643E+07	5.148E+07	1,278	1,300	1,176	102
Newmark 3	335	3.639E+07	6.336E+07	824	1,600	1,448	-624
	1,013	**1.101E+08**	**1.544E+08**	**2,492**	**3,900**	**3,529**	**-1,037**

Notes:
The Newmark Plume Front extraction well network is not included in this table since three month rolling average extraction criteria will not be in effect until the Muscoy Plume Front extraction well network is declared operational and functional.
(1) - The Target Extraction criteria in Section III.B.3 of the SOW is expressed as gallons per month.
(2) - Target extraction rates are the design extraction rates adjusted for the maintenance allowance.

Table 2- 4
Extraction Well Monitoring Results - PCE and TCE
July 2005

Extraction Well	Date Sampled	PCE Concentration (µg/L)	TCE Concentration (µg/L)
Newmark North Extraction Well Network			
EPA 006	7/20/2005	2.5	<0.5
	7/27/2005	2.9	0.5
EPA 007	7/20/2005	4.3	0.6
	7/27/2005	4.6	0.6
Newmark 3	7/20/2005	4.4	<0.5
	7/27/2005	4.6	<0.5
Newmark Plume Front Extraction Well Network			
EPA 001	7/21/2005	5.8	1.6
	7/27/2005	6	1.7
EPA 002	7/20/2005	5.5	1.6
	7/27/2005	5.5	1.6
EPA 003	7/20/2005	4.1	1.0
	7/27/2005	4.1	1.0
EPA 004	7/20/2005	1.5	<0.5
	7/27/2005	1.4	<0.5
EPA 005	7/20/2005	<0.5	<0.5
	7/27/2005	<0.5	<0.5

Notes:

These data have been collected and validated using standard SBMWD protocol as required under SBMWDs DHS Permit. Once the project QA/QC Plan has been prepared and approved, SBMWD will adhere to the QA/QC plan when sampling the extraction wells and validat
NM - Not monitored during the reporting period

Table 3-1
Summary of Newmark OU O&M - GAC Treatment Plants

Reporting Period: July 1, 2005 - July 31, 2005
System Operation Date: October 1, 2000
Operations Completed: 5 years and 10months

Newmark North GAC Treatment Plant	
Description Routine Maintenance Performed	Daily equipment checks performed (see DHS report)
Description of Problems Encountered	Encountering trouble with lifting vault lids for Chlorine injection/Cla-valve. Lids are extremely difficult to open.
Description of Process Improvements Implemented	None
Deviations from the Operational Requirements of the Consent Decree	None
17th Street GAC Treatment Plant	
Description Routine Maintenance Performed	Daily equipment checks performed (see DHS report)
Description of Problems Encountered	None
Description of Process Improvements Implemented	None
Deviations from the Operational Requirements of the Consent Decree	None
Waterman GAC Treatment Plant	
Description Routine Maintenance Performed	Daily equipment checks performed (see DHS report)
Description of Problems Encountered	Encountering trouble with lifting vault lids for Chlorine injection/Cla-valve lids are extremely difficult to open.
Description of Process Improvements Implemented	None
Deviations from the Operational Requirements of the Consent Decree	None

Table 3-2
Summary of Treatment Plant Flow Data and Mass Removal Estimates
July 2005

Treatment Plant	Extraction Wells Treated By Plant	Treated Water Volumes (acre-ft)	Average Monthly Flow Rate (gpm)	Estimated Monthly GAC Mass Removal [1] (lbs)	Estimated Cumulative GAC Mass Removal[2] (lbs)
Newmark North GAC Treatment Plant	EPA 006, EPA 007 and Newmark 3	307.0	2,241	4.2	264.2
17th Street GAC Treatment Plant	EPA 003	216.1	1,577	2.9	183.4
Waterman GAC Treatment Plant [3]	EPA 002, EPA 004 and EPA 005	576.0	4,204	4.4	457.7
Total		**1099.0**	**8021.9**	**11.4**	**905.3**

Notes:

(1) - Monthly mass removal estimates are based on Monthly Treatment Summary sheets documented in monthly DHS reports.

(2) - Cumulative mass removal estimates are for the period since Newmark was declared O&F (October 1, 2000). The historical estimate prior to Consent decree entry is based on a combination of carbon life loading history data and Monthly Treatment Summary spreadsheet.

(3) - Since the beginning of March extracted groundwater from EW-1 has been diverted to the 19th Street Treatment Plant. Therefore, the sum of volume of groundwater extracted from Newmark OU wells is different then the sum of the volume treated by the Newmark OU treatment plants.

Table 3-3
Treatment Plant Monitoring Results - PCE and TCE
July 2005

Extraction Well	Date Sampled	PCE Concentration (µg/L)	TCE Concentration (µg/L)
Newmark North GAC Treatment Plant			
Influent	20-Jul-05	4.4	<0.5
Lead Vessel 1	7-Jul-05	4.0	0.9
	14-Jul-05	3.9	0.8
	20-Jul-05	4.1	0.8
	28-Jul-05	4.1	0.9
Lead Vessel 2	7-Jul-05	4.4	0.1
	14-Jul-05	4.2	0.9
	20-Jul-05	4.3	1.0
	28-Jul-05	3.2	0.8
Lead Vessel 3	7-Jul-05	3.3	1.1
	14-Jul-05	2.9	1.0
	20-Jul-05	2.9	1.0
	28-Jul-05	6.2	1.4
Lead Vessel 4	7-Jul-05	2.3	0.9
	14-Jul-05	2.0	0.8
	20-Jul-05	2.1	0.9
	28-Jul-05	4.3	1.2
Lead Vessel 5	7-Jul-05	2.1	0.8
	14-Jul-05	1.9	0.8
	20-Jul-05	2.6	1.0
	28-Jul-05	4.1	0.9
Lead Vessel 6	7-Jul-05	4.0	1.0
	14-Jul-05	4.0	0.9
	20-Jul-05	4.3	0.9
	28-Jul-05	4.1	0.9
Lead Vessel 7	7-Jul-05	3.8	0.1
	14-Jul-05	3.9	0.8
	20-Jul-05	3.9	0.8
	28-Jul-05	3.6	0.8
Combined Effluent	7-Jul-05	<0.5	<0.5
	14-Jul-05	<0.5	<0.5
	20-Jul-05	<0.5	<0.5
	28-Jul-05	<0.5	<0.5
17th Street GAC Treatment Plant			
Influent	20-Jul-05	3.7	1.0
Lead Vessel 1	20-Jul-05	3.1	1.2
	28-Jul-05	3.5	1.2
Lead Vessel 2	20-Jul-05	3.6	1.3
	28-Jul-05	3.5	1.3
Lead Vessel 3	20-Jul-05	3.6	1.4
	28-Jul-05	3.7	1.3
Combined Effluent	7-Jul-05	<0.5	<0.5
	14-Jul-05	<0.5	<0.5
	20-Jul-05	<0.5	<0.5
	28-Jul-05	<0.5	<0.5
Waterman GAC Treatment Plant			
Influent	20-Jul-05	2.1	0.6
Lead Vessel 1	20-Jul-05	1.0	1.0
Lead Vessel 2	20-Jul-05	<0.5	0.8
Lead Vessel 3	20-Jul-05	0.1	1.1
Lead Vessel 4	20-Jul-05	1.7	1.2
Lead Vessel 5	20-Jul-05	1.1	1.2
Lead Vessel 6	20-Jul-05	2.3	1.5
Lead Vessel 7	20-Jul-05	1.4	1.2
Lead Vessel 8	20-Jul-05	1.6	1.3
Combined Effluent	7-Jul-05	1.0	1.0
	14-Jul-05	<0.5	<0.5
	20-Jul-05	<0.5	<0.5
	28-Jul-05	<0.5	<0.5

Notes:

These data have been collected and validated using standard SBMWD protocol as required under SBMWDs DHS Permit. Once the project QA/QC Plan has been prepared and approved, SBMWD will adhere to the QA/QC plan when sampling the extraction wells and validat

NM - Not monitored during the reporting period

Table 4-1
Summary of Newmark OU O&M - Water Level Monitoring

Reporting Period: July 1, 2005 - July 31, 2005
System Operation Date: October 1, 2000
Operations Completed: 5 years and 10months

Newmark and Muscoy OU Monitoring Wells	
Description Routine Monitoring and Maintenance Performed	Perodic download of RTU based water level data. Collection of manual water levels to verify RTU based readings. Completed Muscoy OU aquifer testing water level data acquisition. Implemented a fixed 1hour water level recording interval for the wells previoulsy monitored as part of the Muscoy aquifer tests.
Description of Problems Encountered	The transducer for MW 011A was not working properly. Evaluation of RTU data should that the elevation offsets for MW 007A, MW 007B and MW016A require adjustment. Unable to reliable download data from the RTUs at the City's operations center.
Description of Process Improvements Implemented	Continuing to troubleshoot RTU/SCADA system communications issues for the monitoring wells.
Deviations from the Operational Requirements of the Consent Decree	MW 007A, MW 007B, MW016A (incorrect elevation offset), MW 011A (transducer not working).
Newmark and Muscoy OU Extraction Wells	
Description Routine Monitoring and Maintenance Performed	Periodic downloaded water level data from RTUs as part of the completion of the Muscoy OU startup aquifer testing (per the schedule in the EPA/URS Field Sampling Plan) and less frequently for extraction wells monitored as part of Newmark OU IRA operations. Periodic collection of manual water level data to verify transducer/RTU water level readings, and to adjust transducer elevation offsets on an as needed basis. Collected manual water levels from within the actual extraction well casings or camera tube between JUly 20 and 26, 2005.
Description of Problems Encountered	There is a scaling issue with the EPA 111 transducers. The transducers were scheduled for replacement.
Description of Process Improvements Implemented	None
Deviations from the Operational Requirements of the Consent Decree	Newmark 3 (transducer not working), EPA 111A,B,C,D (scaling/linearity issue related to RTU).
Site-Wide Monitoring Wells	
Description Routine Monitoring and Maintenance Performed	Collected monthly manual water level measurements on July 20, 22 and 26, 2005.
Description of Problems Encountered	The City is unable to collect Site-Wide manual water levels from a some of wells designated in the SOW due to access limitations.
Description of Process Improvements Implemented	None
Deviations from the Operational Requirements of the Consent Decree	The Site-Wide manual water levels were not able to be collected from the following wells: MW126, PZ124, PZ125, 27th & Acacia,Muscoy Mutual No.5 and 31st and Mt. View.

Table 6-1
Schedule of Upcoming O&M, Monitoring and Reporting Events
Planning Period: August/September 2005

Task/Item	Planned Event
Newmark OU Extraction Wells	
Pump/Well Maintenance	Pumping equipment change out EPA 003 - anticipated October 2005
Electrical/Controller Maintenance	Routine
SCADA System and RTU System Maintenance	Continued work on RTU - SCADA communications and system reliability, changing radio frequency. Troubleshoot and repair RTUs and RTU programming as needed.
Extraction Well Monitoring	Download water level data and check RTU offsets.
Other	None
Newmark OU Treatment Plants	
Carbon Change Outs	None
Electrical/Controller Maintenance	None
SCADA System and RTU System Maintenance	None
Treatment System Monitoring	Routine treatment plant sampling
Other	None
Monitoring Wells	
SCADA System and RTU System Maintenance	Continued work on RTU - SCADA communications and system reliability. Troubleshoot and repair RTUs and RTU programming as needed.
Water Level Monitoring - SCADA Wells	Download water level data and check elevation offsets. Troubleshoot and repair transducers as needed.
Water Level Monitoring - Site-Wide Well	Collect monthly manual water levels
Monitoring Well sampling	No sampling scheduled for SBMWD. EPA/URS sampling will be performed in support of Muscoy OU one-year performance evaluation
Other	None
Project Documents	
Progress Report - August 2005	Scheduled to be submitted September 30, 2005.
QA/QC Plan	A written request for an extension of the submittal date to September 21, 2005 was sent to EPA/DTSC on June 15, 2005.
Community Relations	
Fact Sheets	None planned
Community Meetings	None planned

Table 6-2
Submittal of Deliverables/Documents For 2005

Deliverable	Date Submitted	Status
Groundwater Modeling Work Plan	April 15, 2005	Approved by EPA in Correspondence Dated May 26, 2005
Transmittal of Treatment Plant and Extraction Well Flow Data - March/April 2005	May 31, 2005	Submitted to EPA and DTSC.
Progress Report - March/April 2005	June 14, 2005	Submitted to EPA and DTSC. This is the first monthly progress report submitted. Review and comment pending.
Letter requesting an extension for QA/QC Plan Submittal	June 15, 2005	Currently negotiating the terms of the extension with EPA. QA/QC Plan due date suspended during this time.
Health and Safety Plan	June 17, 2005	Submitted to EPA and DTSC.
Operations and Maintenance Plan	June 17, 2005	Submitted to EPA and DTSC.
Time Line and Schedule	June 21, 2005	Submitted to EPA and DTSC.
Staffing Plan	June 21, 2005	Submitted to EPA and DTSC.
Progress Report - May 2005	June 30, 2005	Submitted to EPA and DTSC.
North Plant Target Extraction Rate Notification	July 25, 2005	Submitted to EPA and DTSC.
Progress Report - June 2005	July 31, 2005	Submitted to EPA and DTSC

Table 6-3
Summary of Newmark Groundwater Flow Model Construction Activities
July 2005

Modeling Component	Progress Summary
Activities Conducted During The Reporting Period	
Data Compilation	1) Continued to catalogue data received to date
Conceptual Model Development	1) Prepared and distributed enhanced presentation of conceptual model to the TAC 2) Continued with enhancements of 3D lithologic model 3) Continued documentation of the conceptual model 4) Assisted Geoscience Support Services in extending the conceptual model basin-wide
Model Construction	1) Refinement of the Horizontal Flow Barrier and Stream Packages 2) Refinement of the Specified Flux Package 3) Initiated USGS model (transmissivity based) converted into two layer model with hydraulic conductivity and hydrostratigraphic layer thickness
Model Calibration	1) Calibration continued with evaluating each of the above described runs with the USGS model for calibration of water balance and head values 2) Initiated consolidation of head data in preparation of Calibration Plan 3) Initiated documentation of the Calibration Plan
Meetings	none scheduled
Activities Planned/Conducted in August and September	
Data Compilation	1) Continue to catalogue data received to date 2) Follow-up on previous requests for data that have not been fulfilled 3) Research and develop GIS coverages for historical land -use in the Basin
Conceptual Model Development	1) Meet with Wes Danskin and John Matty (USGS) to identify pertinent flow barriers (faults) within model domain 2) Document conceptual model approach, process and results 3) Extend the conceptual model basin -wide (with Geosciences)
Model Construction	Continue to methodically refine model as follows: a) Conversion from transmissivity model to hydrostratigraphic model - two layer - estimated completion September b) Conversion from transmissivity model to hydrostratigraphic model - five layer -estimated completion September c) Refinement of model to monthly stress periods - estimated completion September d) Refinement of model parameters - estimated completion - September
Model Calibration	1) Calibration will continue with evaluating each of the above described runs with the USGS model for calibration of water balance and head values 2) Development of Calibration Plan
Meetings	1) TAC Meeting tentatively scheduled for second half of September 2) Working Group Meeting tentatively scheduled for second half of September 3) Meet with Wes Danskin and John Matty (USGS) to discuss conceptual model

Note:

The Newmark Groundwater Flow Model is being co-developed with the Regional Basin Flow Model. As such, the City of San Bernardino Water Department's consultant (SECOR) is working jointly with San Bernardino Valley Municipal Water District's consultant (GEOSCIENCE Support Services)